other pathological defects. Experimentally, it has been shown that the rachitic changes in the bones of infants are very certainly produced if the mother, during pregnancy, is fed on a diet deficient in food containing the antirachitic vitamines. It would appear, also, that the children of mothers whose diet has been defective in anti-rachitic vitamines have not only a greater tendency to develop rickets, but this tendency in the young is not removed by a period of good diet, but may become evident again at a later period with any defective feeding. Not only does this influence extend to the nutrition of the teeth and bones, but Mellanby insisted on the possibility that the so-called catarrhal child is also a product of defective feeding of the mother during pregnancy and lactation. There was no evidence, he said, that enlarged tonsils of the type seen so commonly in children are produced by dietetic defect, but this may be because dogs do not develop the condition at all. At one period in the course of his investigations on dogs, the work was greatly hampered by the development of an inflammatory condition of the lungs. Numerous cases of broncho-pneumonia developed in dogs whose diet was deficient in the fat soluble vitamine, but no cases developed in animals whose diet contained either butter or cod liver oil. Our investigations would render certain that there is an intimate relation between the fat soluble vitamine in the diet and the amount of calcium in the bones and teeth, and it would appear that this vitamine also confers an increased power of resistance to the pulmonary tissues even under conditions in which the bones and muscle structures suffer. He summed up the results of experiments carried on for long periods as follows: Defects of diet in women during pregnancy and lactation are responsible for much of the illness and mortality of young infants. The diet of the growing infant demands a sufficiency of those foods which contain the fat soluble vitamines and calls for only a minimum of cereals; and of cereals oatmeal, according to Mellanby appears to have an unfortunate influence on nutrition of bones in the developing infants. The exposure of the body of an infant to an abundance of sunlight greatly favours nutrition.

Editorial Comments

LIVER EXTRACT IN THE TREATMENT OF MALIGNANT DISEASE

We observe from a letter which appears in *Nature*, August 21, 1926, that Dr. Howitt of the University of Western Ontario, has made in that magazine a preliminary communication regarding the value of liver extracts in the treatment of malignant disease. He writes as follows: the liver is proportionately very large during early fœtal life when rapid growth is the most prominent factor in the life of the organism. Since at this stage of existence the formation of bile has not yet commenced, the relatively large size of the organ may be attributed to the probability that it exercises some influence upon the growth of the body. This effect will be brought about presumably through the medium of an internal secretion. As malignant disease in its various forms is primarily a manifestation of abnormal cellular growth I attempted to determine the presence of such an active principle and to isolate it in a form suitable for therapeutic use. The work was initiated in the laboratories of the Hamilton General Hospital. Extracts of fœtal pigs' livers were used during the earlier stages of the work. Later on both fœtal and adult pig livers were employed. The preparations we obtained were first administered to mice in which Marsh tumour tissue had been transplanted; an equal number of animals were used as controls. It was noted that as compared with the controls the extension of the transplanted tissue was arrested in the mice under treatment, and with repeated injections distant from the site of the tumour a total necrosis of the transplants occurred. The degeneration of the tumour tissue

did not take place in the centre of the mass as might do so under ordinary conditions but commenced at the periphery of the growth.

The work was afterwards transferred to the McGregor Mowbray Clinic of Hamilton which has borne the entire expense of the earlier chemical investigation. The preparations originally employed contained relatively small quantities of the active principle. Recently the co-operation of Professors A. Bruce Macallum and A. A. James of the Department of Biochemistry of the University of Western Ontario has been enlisted, and they have developed a preparation from beef livers which contains the active principle in a highly concentrated form and can be rapidly and economically prepared. These preparations effect no change in blood pressure. The clinical results to date in patients who have received the treatment may be summarized as follows. In one treatment there was complete disappearance of the tumour mass. In others still under treatment a reduction has been noted. In every case the progress of the disease has been arrested and the life of the patient prolonged beyond that of the prognosis given before treatment commenced. No radical claims are advanced for this treatment but the results obtained clinically warrant a more extensive investigation which is now being carried out at the University of Western Ontario and at the McGregor Mowbray Clinic in Hamilton. The letter of Dr. Howitt is dated July 8th.

PUBLIC EDUCATION IN HEALTH

Speaking in support of a motion offered at the last meeting of the British Medical Association, to the effect that the Council be instructed to consider and report on how branches and divisions of the Association as voluntary bodies, could make their contribution towards public education in health, E. R. Fothergill said that the work of the Association in breaking down individualism and exclusiveness and safeguarding the proper interests and the honour and rights of the profession had won for it the respect and confidence of governments and the people they governed. This achievement opened the door towards its second ideal—*viz.*, preventive medicine. Much had been done centrally, and it was now important to see if more could not be done locally. The motion was passed.

We have through an oversight, omitted to refer to the recently organized *Bulletin of Hygiene,* published monthly by the Bureau of Hygiene and Tropical Diseases, London, a publication designed to cover all branches of public health and preventive medicine. This plan is sufficiently wide to cover a very large field, but on looking over the *Bulletin* it is seen that the method of abstracting and summarizing the various results, allows of much condensation. The condensation, however, does not take place at the expense of clearness, and the quality of the abstracts is admirable. It is unusual, but no less welcome to find that illustrations are included.

Such a Bulletin well conducted will be valuable to a large circle of readers. We wish it every success and look for a growth and expansion of its scope such as we understand its Editors are proposing to attempt.

Correspondence

Our London Letter

(From our correspondent)

The Smoke Nuisance. The pea-soup type of fog "enjoyed" by London, particularly in November, is such a feature of the city that it seems hardly possible to believe that it will one day disappear. However, the campaign for smoke abatement all over Great Britain is having some effect on the capital for the London County Council has recently agreed to make an annual contribution of £100 for three years towards the cost of certain investigations by a committee of the Department of Scientific and Industrial Research into atmospheric pollution and the cause of fogs. The City of London has also given £50 as an annual contribution for the same object and certain other big cities are following this example. The effect of smoke and fog on health is difficult to estimate although it is certain that both directly and indirectly it is immense. The effect upon certain buildings is, however, begin-